REMARKS

Claims 1-13 and15-18 have been amended to insert the word "composition" following "polymer" in the preamble of each claim. The amendment provides clarification regarding the structure of the claimed compositions. Support for the amendment may be found in the abstract. Claim 4, which is dependent on Claim 1, has been amended to conform the recitation of the amount of non-polar polymer present in the tie layer with the amount of non-polar polymer recited in Claim 1. Claims 8 and 11 have been amended to provide clarification with respect to antecedent basis. Claims 8, 12 and 16 have been amended to correct obvious typographical errors. New claim 23 has been added to claim certain embodiments with greater particularity. Support for the additional claim is found in the examples wherein three layer test specimens representing embodiments of the invention are described. The specimens have a first polar polymer layer, an adhesive tie layer and a non-polar polymer layer. The adhesive tie layer is in contact with both the polar polymer layer (first outer layer) and the non-polar polymer layer (second outer layer). No new matter is added by entry of Claim 23.

Claims 1-16 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 6,045,732 ("Nakatsuji") in view of U.S. Patent 4,665,442 ("Beavers '442") or U.S. Patent 4,665,153 ("Beavers '153"). Claims 17-18 are objected to as being dependent upon a rejected base claim. Reconsideration is requested for the reasons set forth below.

With respect to Claims 1-16, it is stated in the outstanding Office Action that Nakatsuji discloses a multilayer composite comprising a polyvinyl chloride layer, a polypropylene layer, and an intermediate adhesive layer that contains a) a polyester resin, b) an ethylene copolymer containing epoxy groups and c) minor amounts of a second ethylene copolymer. It is also noted by the examiner that polyester elastomers are not disclosed by Nakatsuji. Beavers '442 and Beavers '153 are cited as teaching that the use of elastomeric copolyesterethers containing units derived from polytetramethylene ether glycol as an adherent layer between other polymeric layers is known. It is the Examiner's position that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the polyester-based elastomers disclosed in the Beavers references as the polyester component in Nakatsuji.

The Office Action further states with respect to Claim 16 that determination of patentability is based on the product itself. It is the position of the Examiner that the product produced by the process of Claim 16 appears substantially identical to that of the prior art and

the burden is on the applicant to show an unobvious difference between the claimed product and the prior art product.

Applicant respectfully disagrees with these assessments. It is Applicant's position that the invention of the present application, as presently claimed, is not obvious in view of the combination of Nakatsuji and either Beavers reference. Further, Applicant contends that the product made by the process of Claim 16 shows a non-obvious difference from prior art products.

The present invention is directed to a multilayer laminate that comprises a polar polymer layer, a non-polar polymer layer and a multicomponent adhesive tie layer. The adhesive tie layer comprises a) a copolyester elastomer, b) a non-polar polymer and c) a copolymer that contains functional groups capable of reaction with the functional end groups of the polar polymer layer. An important feature of the adhesive tie layer is that the polymeric composition of the tie layer is capable of adhering to both the polar polymer and the non-polar polymer that separately form the outer layers of the multi-layer composition of the invention.

In contrast, the Nakatsuji reference describes a multilayer article having an adhesive component that does not adhere to both polar and non-polar polymers. Specifically, Nakatsuji discloses an adhesive component made up of two sublayers (a) and (b) (see Col. 1, line 61 to Col. 2, line 3 of Nakatsuji). Sublayer (a) which contains a polyester, faces the PVC skin material (Col. 11, lines 65-67). The second sublayer (b), which comprises an ethylene copolymer, an epoxy-group containing copolymer and optionally a polyolefin, faces the propylene core of the Nakatsuji multilayer article. Thus, Nakatsuji teaches that a second adhesive layer, one that does not contain polyester, is necessary to effectively adhere to polypropylene. The teaching of Nakatsuji is therefore that a polyester-containing layer does not adhere adequately to polypropylene, a non-polar polymer. The present applicant has invented a novel single tie layer composition comprising a specific polyester, i.e. a copolyester elastomer, a non-polar polymer and a copolymer with reactive functional groups. He has found that this formulation is capable of adhering well to both polar polymers, such as PVC as well as non-polar polymers, such as polypropylene.

As stated in the Office Action, the examiner recognizes that Nakatsuji does not disclose the presently-claimed invention. The reason stated by the examiner is that Nakatsuji does not disclose the use of copolyester elastomers. The Office Action cites Beavers '442 for the proposition that it is well known in the art to use elastomeric copolyesterethers as an adherent layer between other polymeric layers. Applicant submits that Beavers '442 only

discloses adhesion of elastomeric copolyesterethers to a specific polymer that is dissimilar to one of those required in the present invention. That is, Beavers '442 teaches only that elastomeric copolyesterethers adhere to the structurally similar polymer polyethylene terephthalate (PET), a polymer that also has similar polarity. All the multilayer structures exemplified in Beavers '442 consist of layers of PET and layers of elastomeric copolyesterethers. No polymers other than PET are disclosed. Beavers '442 does not disclose that elastomeric copolyesterethers can be used as adherent layers for any polymers other than polyester, much less for polymers of dissimilar polarity. Applicant therefore respectfully submits that the deficiency of Nakatsuji with regard to lack of disclosure of copolyetherester is not remedied by combination with Beavers '442. The teaching of Beavers '442 would not motivate one skilled in the art to use a copolyester ether as a component of an adhesive for a non-polar polymer, much less as a component of an adhesive formulation for use in a bonded structure containing a non-polar polymer and a polar polymer.

Applicant also submits that the combination of Nakatsuji with the second Beavers reference (Beavers '153) is not sufficient to remedy the deficiency of Nakatsuji. It is stated in the Office Action that Beavers '153 teaches that it is well known in the art to use elastomeric copolyesterethers as a bonding layer between other polymeric layers. Beavers '153 discloses compositions for bonding polyesters, copolyesters, or polycarbonates to poly(vinyl alcohol), or copolymers thereof at col. 1, lines 42-54. Bonded compositions containing polymers other than polyesters, polycarbonates and poly(vinyl alcohol)s are not disclosed in the Beavers '153 reference. In particular, no non-polar polymers are disclosed as substrates for bonding. Thus, Beavers '153 does not disclose that elastomeric copolyesterethers can be used as adherent layers for non-polar polymers. It has been noted above that an important feature of Applicant's invention is that the adhesive tie layer of the present invention bonds to both polar and non-polar substrates. Thus, the invention disclosed in Beavers '153 differs substantially from that of the present invention. The teaching of Beavers would not motivate one interested in bonding a non-polar polymer to use a copolyesterether in an adhesive tie layer.

In view of the discussion set forth above with respect to Nakatsuji and the two Beavers references, Applicant submits that there are non-obvious differences between the claimed product and the prior art products disclosed in the references cited. That is, the presently claimed products comprise an adhesive that is capable of bonding to layers of polar and non-polar polymers whereas the disclosed products of the prior art do not incorporate such an adhesive. This is not taught in any of the references cited, nor is a product comprising such an

adhesive composition obvious from the teaching of any of the references alone or in combination.

For the reasons set forth above, it is respectfully requested that the rejection under 35 U.S.C. § 103(a) based on Nakatsuji in view of either Beavers '442 or Beavers '153 be withdrawn.

Respectfully submitted,

Marilyn H. Bromels

MARILYN H. BROMELS
ATTORNEY FOR APPLICANT
REGISTRATION NO. 35,080
TELEPHONE: 302-792-4267
FACSIMILE: 302-792-4270

Dated: June 7, 2006